

AMENDMENTS

In the Claims

Claims 1-14 (cancelled):

C1
Claim 15 (currently amended): A modified functional epothilone PKS wherein said modification comprises at least one of:

replacement of at least one AT domain with an AT domain of different specificity in module 7 and/or module 8;

~~inactivation of the NRPS-like module 1 or of the KS2 catalytic domain;~~

inactivation of at least one activity in at least one β -carbonyl modification domain in module 7; and

addition of at least one of KR, DH and ER activity in at least one β -carbonyl modification domain in module 7 and/or module 8;—and

~~replacement of the NRPS module 1 with an NRPS of different specificity.~~

Claim 16 (original): The modified PKS of claim 15 contained in a cell or contained in a cell-free system, wherein said cell or system contains additional enzymes for modification of the product of said epothilone PKS.

Claim 17 (currently amended): The modified PKS of claim 16 wherein said ~~modifying~~ additional enzymes comprise ~~at least one of a methyltransferase, an oxidase or a glycosylation enzyme.~~

Claims 18-24 (cancelled):

Claim 25 (currently amended): ~~The A PKS enzyme of claim 24, wherein said PKS comprises a DEBS loading domain and 5 modules of DEBS and an NRPS of the epothilone PKS, wherein said PKS comprises~~ comprising all of a non-epothilone PKS ~~with~~ and an MT domain of the epothilone PKS.

Claims 26-28 (cancelled):

Claim 29 (new): A modified functional EpoE protein that lacks at least one activity encoded by a *Sorangium cellulosum epoE* gene and/or comprises at least one domain derived from a heterologous polyketide synthase (PKS).

Claim 30 (new): The modified functional EpoE protein of claim 29 wherein the specificity of the acetyl transferase (AT) domain in module 7 is malonyl, ethylmalonyl, or 2-hydroxymalonyl, and/or the specificity of the AT domain in module 8 is malonyl, ethylmalonyl, or 2-hydroxymalonyl.

Claim 31 (new): The modified functional EpoE protein of claim 29 that lacks the methyl transferase (MT) activity of module 8.

Claim 32 (new): The modified functional EpoE protein of claim 29 contained in a cell or contained in a cell-free system.

Claim 33 (new): The modified functional EpoE protein of claim 32, wherein said cell or cell-free system comprises a functional PKS.

Claim 34 (new): The modified functional EpoE protein of claim 33 wherein the functional PKS comprises EpoA, EpoB, EpoC, EpoD, and EpoF proteins or derivatives thereof.